

The Pathology Council of Alverno Laboratories has determined that follow-up testing and/or confirmation of the following tests is medically necessary in order to provide appropriate patient care. **Changes are highlighted in YELLOW.** **Deleted are highlighted in RED.**

August 2024

Original Test	Orderable with or without reflex	Result	Follow-up/Confirmation Test
Acid Fast Smears	No	All first-time positives	Reflex to PCR for MTb and Rifampin resistance
<b>Acid Fast Cultures</b>	<b>Yes</b>	<b>All first time MTb isolates</b>	<b>All first-time MTb isolates are sent to corresponding state lab for susceptibility and Rifampin resistance testing.</b>
Allergen Profile: Childhood Food & Environmental Panel	Yes	Egg white (f1).0.1 Ku/L Milk (f2)>0.1 Ku/L Peanut (f13) > 0.1 Ku/L	Reflex to egg, milk, and/or peanut component allergen profile
Allergen Profile: Food Allergy Panel	Yes	Egg white (f1).0.1 Ku/L Milk (f2)>0.1 Ku/L Peanut (f13) > 0.1 Ku/L	Reflex to egg, milk, and/or peanut component allergen profile
ANA by multiplex EIA, Screen	Yes	Positive	Quantitative detection of DsDNA, semi-quantitative detection of: Chromatin, Ribosomal P, SS-A, SS-B, Sm, SmRNP, RNP, Scl-70, and Centromere B.
ANA by IFA with reflex to multiplex EIA	Yes	Titer ≥ 1:80	Quantitative detection of DsDNA, semi-quantitative detection of: Chromatin, Ribosomal P, SS-A, SS-B, Sm, SmRNP, RNP, Scl-70, and Centromere B.
Antibody Screen	No	Positive	Antibody ID
Antibody Screen	No	Positive	Antigen-type units for crossmatch
Blood Culture	No	Rapid identification positive for Staph aureus	PCR for confirmation of Staph aureus identification and mecA (MRSA) resistance marker detection.
Blood Culture	No	Detection of E. coli, <b>Klebsiella spp. and Proteus spp.</b>	BIOFIRE Torch for Resistance markers (CTX-M, IMP, KPC, mcr-1, NDM, OXA48, VIM)
Body Fluid Slide	No	Abnormal cells	Pathologist review
Breast Cancer (new diagnosis)	No	Carcinoma	HER-2 (reflex to FISH if applicable) Estrogen/Progesterone receptors.
CBC	No	Specified abnormal flags	Pathologist review and/or scan and/or manual diff
Chemistry Panel (Basic Metabolic or Comprehensive Metabolic)	No	Adults 18 and over	Estimated Glomerular Filtration Rate (eGFR) by Creatinine will also be reported
Clostridium difficile	No	GDH + / Toxin negative	PCR confirmation (This only applies to Franciscan sites).
Clostridium difficile, BioFire GI Panel	Yes	Positive	If the C. diff target on the BioFire PCR panel is positive an EIA antigen test will be reflexed.
Colorectal carcinoma, MMR	No	MLH1 deficient	BRAF V600E (Alverno) with reflex to MLH1 promoter methylation in wild type cases (Quest)

CSF specimen	No	CSF specimen is cloudy (not bloody)	STAT Gram Stain
Coronary Risk Panel	No	Triglycerides > 400 mg/dl	Direct LDL
Culture	No	Suspected pathogens	Organism ID & Susceptibility Testing if indicated
Endometrial endometrioid adenocarcinoma, MMR	No	MLH1 deficient	MLH1 promoter methylation (Quest)
Fetal Bleed Screening Test	No	Positive	Kleihauer-Betke fetal cell stain or flow cytometry test for the detection of fetal hemoglobin.
Group B Streptococcus by PCR	No	Unresolved/Indeterminate	Culture
Group B Streptococcus by PCR (Sensitivity Testing)	No	Positive on Penicillin allergic patients	Culture and Antibiotic Susceptibility Testing
Hemoglobin A1C	No	All	Estimated Average Glucose (EAG calculation) also reported
Hemoglobin electrophoresis	No	If peak is in "S" zone If peak is in "C" zone Other abnormal findings	Sickle screen Acid Plate Sent to Reference lab if indicated
Heparin Induced Platelet Antibodies	No	If positive	Serotonin Release Assay
Hepatitis A Cascade	Yes	If Hepatitis A total is Positive or Equivocal	Hepatitis A IgM
Hepatitis B Surface Antigen	No	If Hepatitis B Surface Antigen Index value is repeatedly between 1.00 and 50.00 or result is >=50.00 in a stand-alone order without other Hep B serology assays to confirm.	Hepatitis B Surface Antigen Confirmation by neutralization.
Hepatitis C Screen	No	Positive & equivocal	PCR Quantitative Confirmation
HIV – Rapid Test	No	Positive	HIV 5 <sup>th</sup> Generation Screen
HIV 5 <sup>th</sup> Generation Screen	No	Reactive	Geenius confirmation (HIV Ab Differentiation Immunoassay)
Geenius confirmation (HIV Ab Differentiation Immunoassay)	No	Nonreactive, Indeterminate, HIV Positive Untypable (Undifferentiated)	Nonreactive, Indeterminate or Undifferentiated sent to reference lab for HIV-1 RNA NAT
LDL	No	LDL calculation is negative	Direct LDL
Lupus Anticoagulant Reflexive Panel	No	If indicated	Fibrinogen, dRVVT and Silica Clotting Time(SCT) confirmation, and dRVVT and SCT mixing studies.
Lyme Disease	No	Positive or equivocal EIA/IFA test	Western Blot confirmation
Malaria Smear	No	Positive	Sent to Reference Lab for confirmation by PCR
Malaria, Rapid Screen and Smear	No	Pos antigen / Neg smear or Neg. antigen/Pos smear	Sent to Reference Lab for Confirmation by PCR

Newborn Metabolic Error Screen	No	-	- Collection required before baby leaves the hospital - if 1 <sup>st</sup> screen is collected <24 hrs after 1 <sup>st</sup> protein feeding, no-charge repeat is required - State does follow-up with parents and MD if any screen result is positive
Organism ID	No	All Identified Pathogens	Antibiotic susceptibility if indicated.
Pap smear / thin prep	No	Suspected Abnormal Cells	Pathologist interpretation
Pap HPV Reflex if ASCUS	Yes	Pap with ASCUS result	HPV
Pap HPV on Any Abnormal	Yes	Pap with any abnormal result	HPV
Prenatal Testing (Blood Bank)	No	Positive Antibody Screen  Clinically significant antibodies detected in Prenatal Antibody Screen	Antibody identification performed  Antibody titer performed
Serum Creatinine	No	All (greater than 20 years of age)	Glomerular Filtration Rate (GFR - calculation) also reported
Serum Protein Electrophoresis	Yes	Positive	Immunotyping
Strep Screen by EIA/FIA (Group A Strep – throat screen)	No	Strep screen negative for Group A Streptococcus	Culture performed
Syphilis Screen (RPR)	No	Reactive / Positive	RPR quantitative & Syphilis Screen (Treponema specific)
Susceptibility Testing	No	Pan Resistant Pseudomonas species:  Confirmed CRE KPC  Confirmed CRE not NDM:  Elizabethkingia meningosepticum/ Acinetobacter species only susceptible to Minocycline	Ceftazidime-avibactam Ceftolozane-tazobactam  Ceftazidime-avibactam Meropenem-Vaborbactam  Ceftazidime-avibactam  Colistin
Syphilis Screen (Treponema specific)	No	Reactive / Positive	RPR / RPR quantitative (if indicated)
RPR / RPR quantitative (if indicated)	No	Nonreactive (if Syphilis Screen (EIA) is reactive or equivocal) Reactive (if Syphilis Screen (EIA) is equivocal)	TP-PA (Treponema pallidum Particle Agglutination)
Therapeutic phlebotomy	No	Requested	H/H must be performed within 24 hr prior to phlebotomy
Thyroglobulin by LC-MS/MS	Yes	Thyroglobulin Antibody $\geq 1$ IU/mL	If the thyroglobulin antibody is positive ( $\geq 1$ IU/mL) samples will be sent to Quest to perform the Thyroglobulin antigen by LC-MS/MS. If the antibody is

			<1, thyroglobulin antigen testing will be performed in-house by immunoassay.
Transfusion (packed cells or platelets)	No	Requested	H/H or platelet count must be performed prior to transfusion
Type and Screen	No	All first-time type determinations	No charge ABO and RH (Type) <i>**Required for sites that perform electronic crossmatch if the patient does not have a historical blood type**</i>
Urinalysis	Yes	Dip positive for biochemical results: glucose value of $\geq$ 500 mg/dL <b>or</b> positive blood <b>or</b> positive protein <b>or</b> positive nitrite <b>or</b> positive leukocyte esterase	Urine Microscopic (may also order <i>Urinalysis with Microscopic Exam</i> – which will include microscopic regardless of results)
Urinalysis with Reflex Culture	Yes	>10 WBC per hpf <b>and</b> leukocyte esterase <b>or</b> nitrite positive	Microscopic exam will be performed only if dipstick is positive for blood, leukocyte esterase, nitrate, protein, or glucose >500 mg/dL.  Culture performed if >10 WBC per hpf <b>AND</b> leukocyte esterase <b>OR</b> nitrate is positive.
Urine Electrolytes, Random Urine Protein, Random	Yes	Requested	Urine Creatinine, Random
Pain Management-Saliva Drug Test	No	Positive	Confirmations by GC or LC/MS
VDRL (CSF)	No	Positive	Titer

**NOTES:**

1. All routine stool cultures include examinations for Salmonella, Shigella, Campylobacter, Aeromonas, Pleisiomonas, Edwardsiella and predominant growth of Klebsiella Oxytoca. Examinations for other enteric pathogens (Vibrio, E. coli 0157, Yersinia) will be performed only upon physician request. Special physician requests for Vibrio, E. coli 0157 or Yersinia will also trigger the performance of a routine stool culture.
2. 24-hour urine creatinine test will not be performed on all 24-hour urine specimens unless specifically requested by the physician.
3. All routine body fluid, wound, sputum and “other” culture orders include a gram smear to be performed on the original specimen.
4. All thyroglobulin antigen orders will be accompanied with a thyroglobulin antibody assay to determine if antibodies are present. If antibodies are present the thyroglobulin antigen assay will be sent to Quest to be performed by LC/MS-MS methodology. If antibodies are not present, the thyroglobulin antigen assay will be performed in-house via immunoassay methodology (go-live



12/7/21).

5. Orders for "Fungal Antibody Screen" include the following:

- ◆ Histoplasma antibody
- ◆ Blastomyces antibody
- ◆ Coccidioides antibody
- ◆ Aspergillus antibody

*Note: Any of the four fungal antibodies listed above may be ordered individually by the physician.*

6. Positive drug screen results on the following test codes will result in a confirmation reflex on the LC/MS/MS:

- D5WC
- D8WC
- D9WC
- D9AWC
- DRC11
- DROC0

## **Addendum A**

### **Clinical Laboratory Interpretation Services**

*The Pathologist may automatically interpret the clinical laboratory services listed below. This professional interpretation will be written and included on the patient's test report.*

- ◆ Hemoglobin Electrophoresis
- ◆ Protein, total, serum, urine; electrophoretic fractionation and quantitation
- ◆ Abnormal blood smear; interpretation and report
- ◆ Fibrinolysin; screening
- ◆ Platelet aggregation (in vitro), any agent
- ◆ Fluorescent antibody, screen
- ◆ Fluorescent antibody, titer
- ◆ Immunoelectrophoresis / Immunotyping; serum, each specimen – capillary immunotyping
- ◆ Immunoelectrophoresis / Immunotyping; other fluids (e.g. urine) with concentration, each specimen
- ◆ Dark field examination, any source (e.g. penile, vaginal, oral, skin); includes specimen collection.
- ◆ Mixing Studies – PT and/or APTT
- ◆ Smear, primary source, with interpretation; special stain for inclusion bodies or intracellular parasites (e.g. malaria, kala azar, herpes)
- ◆ Crystal Identification by light microscopy with or without polarizing lens analysis, any body fluid (except urine)
- ◆ Deviations from standard Blood Bank Procedures
- ◆ Transfusion Reaction Workups
- ◆ Immunophenotyping by flow cytometry
- ◆ FISH Analysis
- ◆ Endomysial antibodies for celiac sprue
- ◆ Lupus Anticoagulant Reflexive Panel
- ◆ Antiphospholipid Syndrome Panel
- ◆ Microsatellite Instability for Lynch Syndrome
- ◆ Microsatellite Instability for Checkpoint Therapy
- ◆ BRAF V600 Mutation by PCR
- ◆ KRAS Mutation by PCR
- ◆ EGFR Mutation by PCR
- ◆ Myeloid Neoplasia Panel by NGS
- ◆ Solid Tumor Comprehensive Panel by NGS